

Claims

- 1) Device enabling the on-the-fly conversion of a low bandwidth digital audiovisual stream, which is highly compressed for transport purposes, into a less compressed digital audiovisual stream, in order to adapt it to existing equipments designated to play the same, characterized in that it successively:
 - extracts the "highly compressed" useful stream encapsulated in transport packets (MPEG2, by way of non-limiting example) that are identifiable (by PID, by way of non-limiting example), from an input transport stream (TSin, by way of non-limiting example),
 - decompresses said useful stream into a less-compressed or non-compressed digital stream (of the video "bitmap" type, by way of non-limiting example),
 - re-compresses sufficiently the new less-compressed or non-compressed digital stream in a format that is known to the equipment designated for playing it (in MPEG2, by way of non-limiting example)
 - re-encapsulates the new resulting stream in transport packets (MPEG2, by way of non-limiting example),
 - re-injects said packets in the output Transport stream (TSout, by way of non-limiting example), taking care not to desynchronize the video and the audio.
- 2) Device according to claim 1, characterized in that said re-compressed and re-encapsulated packets, which are re-injected by multiplexing into the Transport stream, return to said receiver in lieu of the initial useful stream packets, possibly with the same packet identifications (PIDs, by way of non-limiting example), then modifying the output stream bandwidth.
- 3) Device according to claim 1, characterized in that said re-compressed and re-encapsulated packets, which are re-injected by multiplexing into the Transport stream, return to said receiver as a supplement to the

initial useful stream packets (while also keeping the initial packets that were used to generate the new stream but which have become useless), with other packet identifications (PIDs, by way of non-limiting example).

- 4) Device according to any of claims 1-3, characterized in that it filters and simply eliminates some of the audio/video packets of the initial input Transport stream, identified as not being related to the viewing or the listening of the selected program in progress, in order to "create space" in the output Transport stream.
- 5) Device enabling the use of the conventional functions of a digital video recorder, by being capable of temporarily or permanently storing all or the useful portion of the "highly compressed" initial stream in a local or remote memory (17), in order to replay it at the user's request, characterized in that it implements any of the Devices according to claims 1-4, for its decompression, re-compression in a known format, re-encapsulation and, finally, re-injection in the output transport stream.
- 6) Device, characterized in that it performs the function of descrambling the useful stream before carrying out its main function of adapting the output transport stream, according to any of claims 1-5.
- 7) Device according to any of claims 1-6, characterized in that it is integrated, entirely or partially, into a removable peripheral (including but not limited to a PCMCIA module compatible with the DVB-CI CENELEC EN50221 standard, or the OpenCable POD standard, a removable USB port or parallel Port, an Ethernet extension, etc ...).
- 8) Device according to any of claims 1-6, characterized in that it is integrated, entirely or partially, into existing equipment, in the form of component(s) or card(s) to be connected, in order to recreate a real transport stream capable of being played by the existing and especially standard means of said equipment.